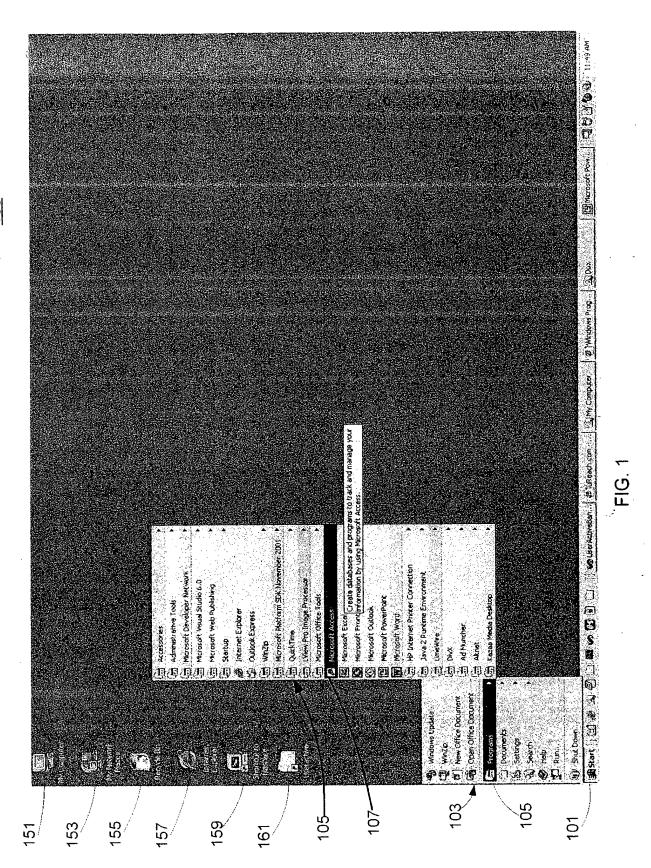Title: Capturing & Processing User Events on
a Computer System for Recording & Playback
Inventor: Gray, et al.
Filed: September 12, 2003
Attorney Docket No. 006030.00004
Sheet 1 of 8

FIG. 1

Title: Capturing & Processing User Events on
a Computer System, for Recording & Playback
Inventor: Gray, et al.
Filed: September 12, 2003
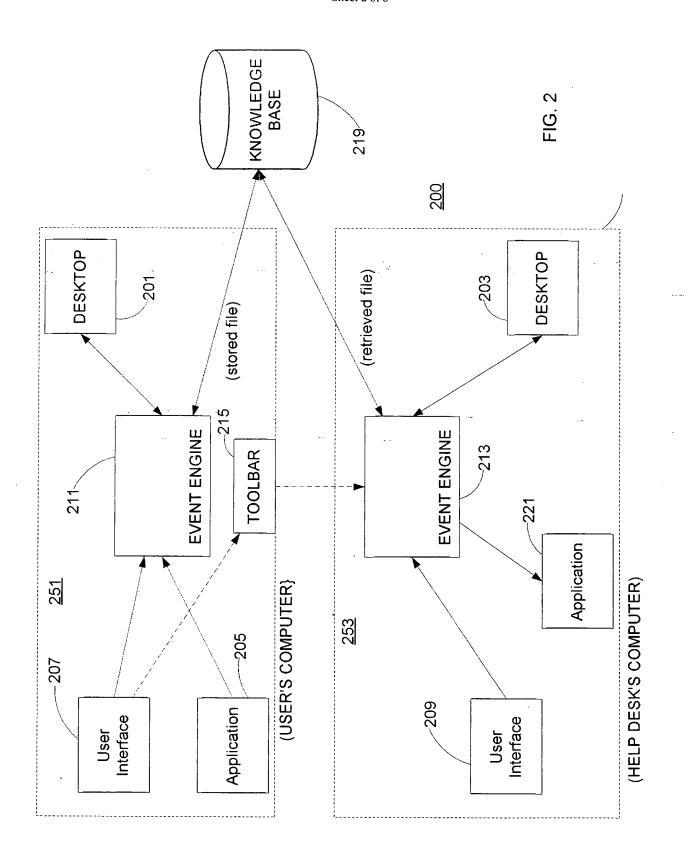Attorney Docket No. 006030.00004
Sheet 2 of 8

FIG. 2

Title: Capturing & Processing User Events on a
Computer System for Recording & Playback
Inventor: Gray, et al.
Filed: September 12, 2003
Attorney Docket No. 006030.00004
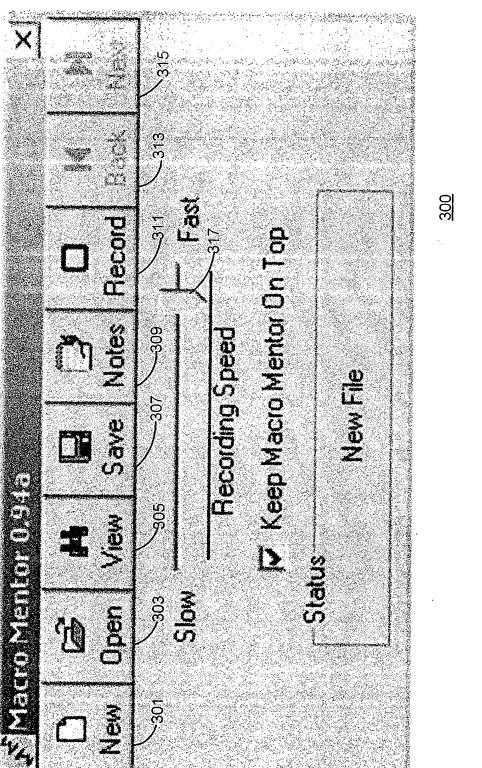Sheet 3 of 8

FIG. 3

300

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a Computer System for Recording & Playback
Inventor: Gray, et al.
Filed: September 12, 2003
Attorney Docket No. 006030.00004
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400

401 → **USER INTERFACE INSTANTIATES AN INSTANCE OF EVENT ENGINE**

403 → **EVENT ENGINE CONFIGURE API's AS NECESSARY**

413 → **STORE FILE INTO KNOWLEDGE BASE**

405 → **RECEIVE AND EVALUATE COMMAND FROM USER INTERFACE**

415 → **RETRIEVE AND LOAD FILE FROM KNOWLEDGE BASE**

407 → **CAPTURE USER EVENTS THROUGH API's; EVALUATE USER EVENTS**

417 → **PLAYBACK FILE**

409 → **RECORD USER EVENTS INTO TEXT FILE**
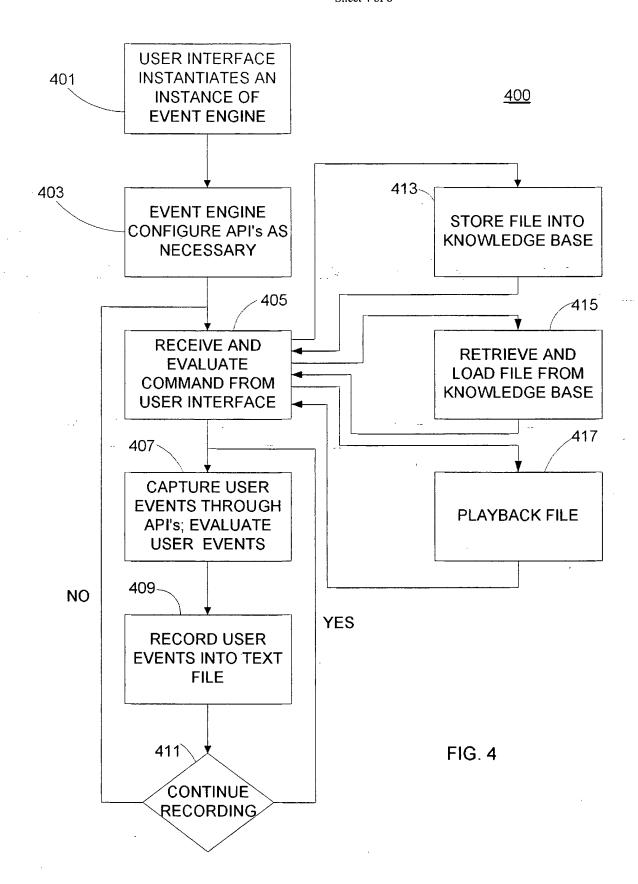
NO

YES

411 → **CONTINUE RECORDING**

FIG. 4

Title: Capturing & Processing User Events on
a Computer System for Recording & Playback
Inventôr: Gray, et al.
Filed: September 12, 2003
Attorney Docket No. 006030.00004
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INPUT USER
COMMAND

501

RECORD
BUTTON
SELECTED

503

NO

YES

PROCESS ANOTHER
COMMAND TYPE

515

START TIMER AND
ADJUST TIMER
SPEED

505

NO

500

LEFT BUTTON
DOWN FOR TWO
ITERATIONS

507

NO

YES

CURSOR
POSITION OVER
ACCESSIBLE
OBJECT

509

FIG. 5

YES

ACCESS AND
RECORD
PARAMETERS;
HIGHLIGHT OBJECT

511

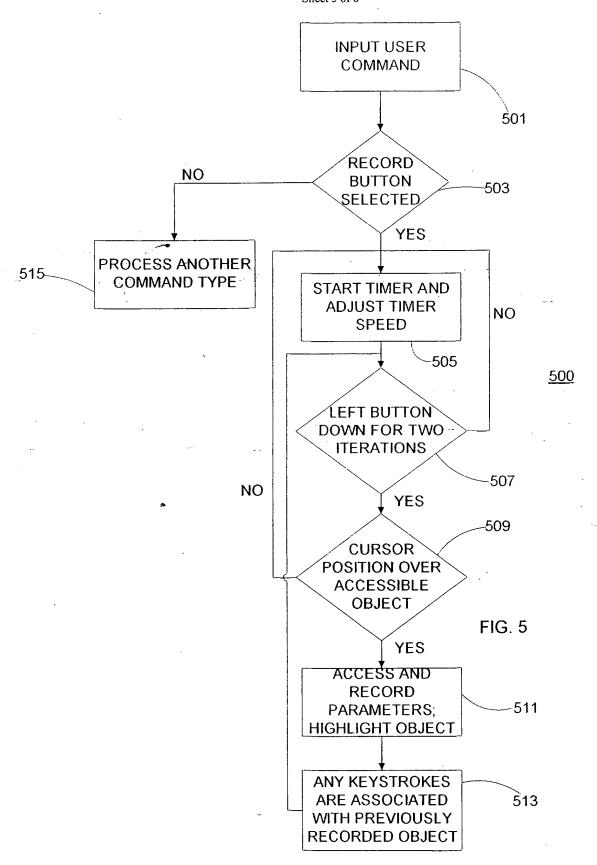ANY KEYSTROKES
ARE ASSOCIATED
WITH PREVIOUSLY
RECORDED OBJECT

513

Title: Capturing & Processing User Events on a
Computer System for Recording & Playback
Inventor: Gray, et al.
Filed: September 12, 2003
Attorney Docket No. 006030.00004
Sheet 6 of 8

LOAD FILE/
RECORDING DATA   601

INPUT USER
COMMAND   603

605

PLAY
BUTTON
SELECTED

NO → PROCESS
ANOTHER
COMMAND   607

600

YES

609   SEEK
SCREEN
OBJECT

ENUMERATE
DESKTOP TO FIND
MATCHING TOPMOST
WINDOW   611

FIG. 6

621   GO TO NEXT EVENT
STEP

DRILL-DOWN
THROUGH
HEIRARCHY TO FIND
MATCHING SCREEN
OBJECT   613

617

615

STOP PLAYBACK   NO ← WAS SCREEN
OBJECT
FOUND?   YES → SHOW NOTES AND
INVOKE RECORDED
MOUSE/KEYBOARD
ACTIONS   6

Title: Capturing & Processing User Events on
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Filed: September 12, 2003
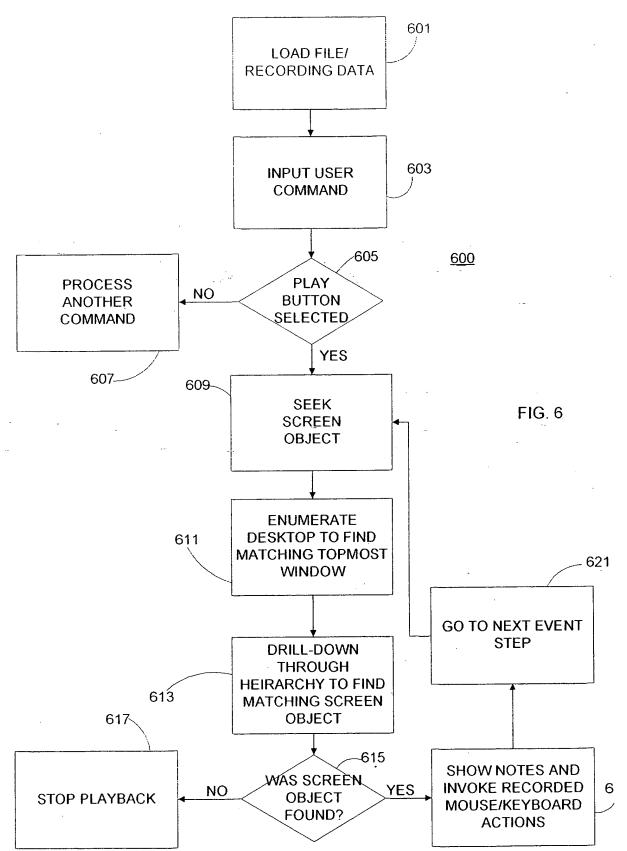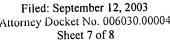Attorney Docket No. 006030.00004
Sheet 7 of 8

USER CREATES
A NEW RECORDING — 701

INPUT USER
COMMAND — 703

700

PROCESS
ANOTHER
COMMAND — 707

NO

NOTES
BUTTON
SELECTED — 705

FIG. 7

YES

PLAY RECORDING
NORMALLY — 709

GO TO NEXT EVENT
STEP — 717

IS THIS EVENT
STEP
DEPENDENT ON
PREVIOUS
ACTION? — 711

YES

SHOW NOTES AND
INVOKE RECORDED
MOUSE/KEYBOARD
ACTIONS — 715

NO

DISPLAY MODAL
DIALOG ALLOWING
USER TO ENTER
NOTE FOR THIS
EVENT STEP — 713

Title: Capturing & Processing User Events on
a Computer System for Recording & Playback
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Filed: September 12, 2003
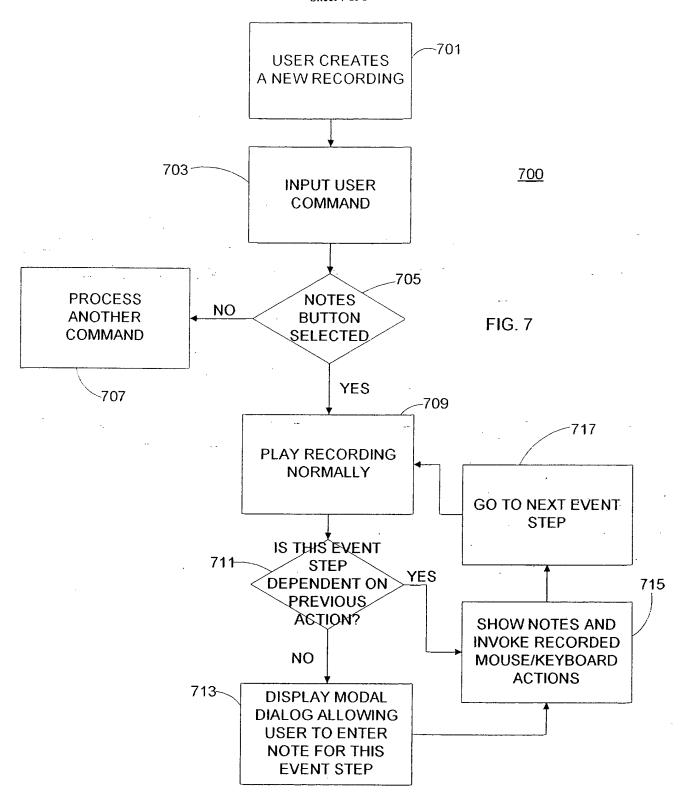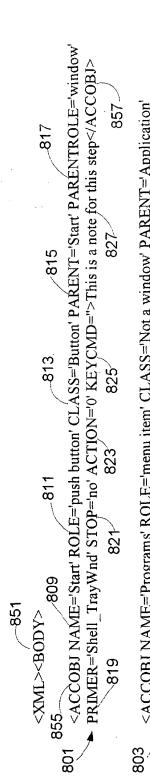Attorney Docket No. 006030.00004
Sheet 8 of 8

```
<XML><BODY>
<ACCOBJ NAME='Start' ROLE='push button' CLASS='Button' PARENT='Start' PARENTROLE='window' PRIMER='Shell_TrayWnd' STOP='no' ACTION='0' KEYCMD=''>This is a note for this step</ACCOBJ>

<ACCOBJ NAME='Programs' ROLE='menu item' CLASS='Not a window' PARENT='Application' PARENTROLE='popup menu' PRIMER='BaseBar' STOP='no' ACTION='0' KEYCMD=''></ACCOBJ>

<ACCOBJ NAME='Accessories' ROLE='menu item' CLASS='Not a window' PARENT='' PARENTROLE='popup menu' PRIMER='BaseBar' STOP='no' ACTION='0' KEYCMD=''></ACCOBJ>

<ACCOBJ NAME='Calculator' ROLE='menu item' CLASS='Not a window' PARENT='' PARENTROLE='popup menu' PRIMER='BaseBar' STOP='no' ACTION='0' KEYCMD='_0490000_0500000_0510000_0520000'></ACCOBJ>

</BODY></XML>
```

801 803 805 807 809 811 813 815 817 819 821 823 825 827 829 851 853 855 857

800

FIG. 8